

## DISCUSSION

Burdon and co-workers<sup>1</sup> noted that earlier instances of this disturbance of pregnancy were recorded in 1877 by Smellie and in 1912 by Crabtree. Burdon reported the case of a primipara 36 years of age in which successful treatment consisted of elevating the uterus and supporting it with a pessary.

During gestation the capacity of the bladder increases and the tonicity decreases. When mechanical pressure is exerted on the urethra and bladder neck, acute urinary retention occurs. Seidner and co-workers<sup>2</sup> expressed the belief this happens fairly frequently. They noted the five such attacks in gravid women, and in none of those cases were there previous symptoms referable to the urinary tract. In all the bladder was palpated as a clearly rounded mass from which the uterus was distinctly separate. The uterine cervix was high under the symphysis pubis and was pressed against the neck of the bladder. Spring and Hymes<sup>3</sup> conjectured that the condition might come about from eccentric hypertrophy in which the anterior wall distends more rapidly than the posterior wall, drawing the organ upward. They reported successful treatment of the condition in a 29-year-old multipara by decompression of the bladder and manual replacement of the uterus.

The usual course in pregnancy when the uterus is retroverted and incarcerated is spontaneous elevation of the organ from the true pelvis. This is brought about by expansion of the uterus until it no longer can be contained within its limited space. This usually presents no problem even in the more severe cases of retroversion where iatrogenic efforts are of no assistance, such as severe binding inflammatory adhesions and endometriosis. This consideration being held tenable, no other course than continuous vesical decompression was considered in the case here reported, although elevation of the uterus has been reported effective in other cases. The use of undue force in elevation of an incarcerated uterus could lead to abortion.

## SUMMARY

Acute urinary retention was caused by pressure of the cervix of a retroverted, gravid uterus. The condition was successfully treated by placement of a retention catheter in the bladder until the uterus spontaneously elevated itself out of the true pelvis.

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## REFERENCES

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## Fractured Styloid Process of the Temporal Bone

### Report of a Case

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RARELY, during operation for the removal of the palatine tonsils the styloid process is fractured. In the literature are several reports of symptoms arising, following tonsillectomy, from an elongated styloid process. Fracture of a styloid process of normal length produces similar complaints. The symptom complex described resembles that of glossopharyngeal neuralgia. Chief complaints include painful swallowing and a persistent pain in the palatine tonsil area, radiating to the ear, to the same side of the face, to the clavicle and the shoulder and sometimes into the chest. Physicians may do well to keep this condition in mind, for the vagueness of the complaints is such as to turn suspicion towards psychoneurosis.

The following case is reported because a number of physicians, including several otolaryngologists, examined and treated the patient but apparently were unaware of the underlying pathologic condition.

A white male bus driver, 35 years of age, was first observed by one of the authors on February 10, 1955, with complaint of persistent pain in the throat that had begun within an hour following tonsillectomy done June 8, 1954. While yet in the hospital, he noted pain in the right side of the throat and on the right side of the face. He said his right ear was painful, had "a plugged feeling." The pain radiated to the right side of the neck and the right shoulder.

The patient said that ever since the operation he slept poorly because he always had the feeling that something was left within the right tonsil area. He had seen several general physicians, several otolaryngologists, two neurosurgeons and a psychiatrist. Three of these physicians had performed a total of five additional operations on the right side of his throat. The operations consisted of removal of lymphoid tissue on the surface of the tongue and removal of small islands of lymphoid tissue within the tonsillar fossa. Operations gave relief for approximately two days but always the symptoms recurred.

The patient, when examined was trembling and of anxious mien. Retraction of the right eardrum and prominence of the short process of the malleus were noted. The eardrum was intact with no scarring and no evidence of infection. The left eardrum was normal, with all landmarks visible. There was a good airway through the nose. Within the throat the tonsils were completely enucleated, and no lymphoid tissue was visible within the fossae. The patient complained of tenderness when a tongue depressor was pressed against the right side of the tongue posteriorly. No abnormality was noted on

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mirror examination of the postnasal space. Upon indirect laryngoscopy the vocal cords were observed to move equally and no lesions were seen. An audiogram demonstrated an average hearing loss in the right ear of 10 decibels within the conversational range. The impairment was of conduction type. In the left ear all tones were heard above the zero base level. There was considerable loss of hearing in the frequencies above the 4,000 per second, worse within the left ear.

Because of the anxiety of the patient and the seeming exaggeration of symptoms, he was referred to a psychiatrist (W.G.B.). The psychiatrist, after talking with the patient for two hours, felt that although he was psychoneurotic he had organic pain that was not amenable to psychiatric therapy. Therefore he was referred back (to M.W.S.) on March 16, 1955. The patient persistently complained of the same symptoms as before. At this visit, hyperemia of the vessels along the malleus of the right eardrum was noted. Procaine, 1 cc., was injected within the tender area and the patient was not certain he had relief immediately. At the following visit two days later, he said that the pain had disappeared for approximately two hours and that the pain then was less but still present in the same location. He returned March 28, 1955, stating that the pain was severe again and that he was thoroughly discouraged.

He was referred to a roentgenologist for x-rays of the styloid process. The report was as follows: "The right and left styloid process are of equal length. Both are 2.3 centimeters in length (uncorrected magnification), but the right styloid process shows a discontinuity in its uppermost part with the temporal bone so that one may be reasonably sure it has been fractured at this site in the past without subsequent bony union" (see Figure 1).

On April 19, 1955, with the patient under general anesthesia an incision was made in the right tonsillar fossa and the styloid process was noted to be freely movable within the fossa, confirming the x-ray report. It was removed. After operation the patient said that the right ear still felt plugged and that his throat was sore and he had some pain in the chest. However, on May 4, 1955, he said he was much better and had returned to work. From then on he was asymptomatic.

Failure to recognize the symptom complex of a fractured styloid process in this patient caused considerable needless therapy and pain.

The styloid process is a slender cylindrical bone fused with the temporal bone anterior to the stylo-mastoid foramen. It consists of a basal segment, which is hidden by the tympanic plate, and a longer segment whose tip is continuous with the stylohyoid ligament. The ligament may become ossified, giving rise to an elongated process capable of provoking symptoms of a glossopharyngeal neuralgia.

Muscle attachments to the styloid process consist of the stylopharyngeus, the stylohyoid and the styloglossus muscles. Pain during deglutition in case of

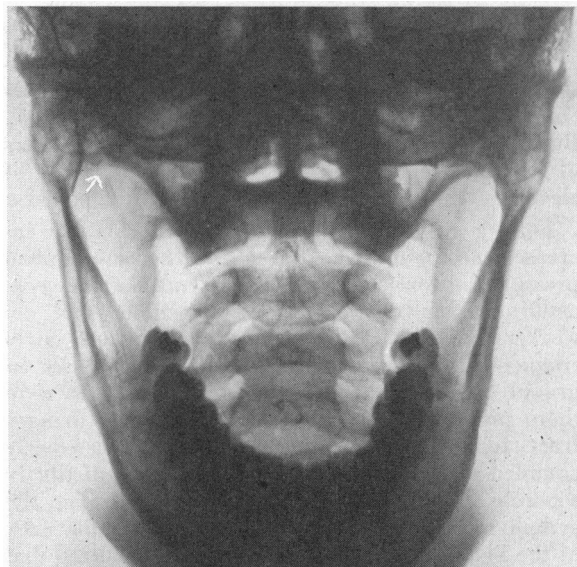


Figure 1.—Discontinuity of uppermost part of right styloid process with temporal bone.

fracture of the process is probably caused by a direct pull exerted by these muscles on the broken bone. Injury to the glossopharyngeal nerve with irritation may occur. Roentgenologically, the line of fracture is very easy to demonstrate.

A disturbance in the swallowing act, especially following tonsillectomy, should make one suspicious of a fractured styloid process. Pain is localized within the tonsil fossa or deep in the neck near the base of the tongue. The pain often radiates to the face and ear on the same side and to the clavicle, shoulder and chest. Pain is worse with swallowing and the patient has a sensation of a foreign body in the throat. In the case herein reported the patient also complained of stuffiness of the ear and a slight loss of hearing (which was confirmed) which completely remitted with the other symptoms. A persistent cough may be present and there may be a choking or a burning sensation in the throat.

Oftentimes the styloid process can be palpated through the tonsillar fossa, with an exaggeration of the symptoms. Treatment is surgical removal, preferably through the intraoral route.

#### SUMMARY

A patient with fractured styloid process of the temporal bone following tonsillectomy had persistent pain and some loss of hearing. He was examined by numerous physicians who performed five subsequent operations without relief. A psychiatrist said the patient's pain was, indeed, organic. X-ray examination of the styloid process revealed a fracture of the proximal portion. Complete symptomatic relief resulted from intraoral surgical removal of the styloid process.

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